

Application No.:10/782,574

Docket No.: JCLA12196

**In The Drawings:**

Please amend Figures 4, 7, 9, 10 and 11 as shown in red ink in the separate accompanying pages. Proposed corrected drawing including corrected Figures 4, 7, 9, 10 and 11 is also attached hereto in separate accompanying pages. Reconsideration is respectfully requested.

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**REMARKS****Present Status of the Application**

Claims 1-14 are pending of which claims 1-4 and 8-10 have been amended to more clearly describe the claimed invention. Amendment to claims 1 and 10 are fully supported at FIG. 7. Therefore, it is believed that no new matter adds by way of amendment to claims or otherwise to the application.

In the Office Action dated June 3, 2005, the Examiner objected to Drawings; objected to specification because of some informalities; rejected claims 1-5 and 8 under 35 U.S.C. 102(e) as being anticipated by Roddy et al. (US-6,769,772, hereinafter Roddy); rejected claims 1-14 under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (US-6,666,556, hereinafter Hansen).

FIG. 4, 7 and 9-12 have been amended to overcome the Examiner's objections as set forth on page 2 of the outstanding Office Action. Proposed corrected FIG. 4, 7 and 9-12 are attached hereto as separate accompanying pages. Reconsideration is respectfully requested.

The Specification has been amended in order to overcome the Examiner's objections as set forth on page 3 of the outstanding Office Action.

It is believed that no new matter adds by way of amendment to drawings and specification, or otherwise to the application. Reconsideration is respectfully requested.

Applicants respectfully submit that at least for the following reasons claims 1-14 patently define over prior arts of record. Reconsideration is respectfully requested.

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**Discussion of Objections to Drawings**

*The Office Action objected to the drawings under 37 CFR 1.121(d) because Figure 7, for example, only one of the three wire grid polarizers and one of the liquid crystal panels, element number 616 and 618 respectively, are labeled and requests for labeling the remaining two of the three wire grid polarizer and the liquid crystal panels.*

In response thereto, Applicants would like to thank the Examiner for pointing out the informalities and accordingly corrected the drawings as above. Reconsideration is respectfully requested.

**Discussion of Objections to Specification**

*The Office Action objected to the specification because on page 2, line 15 of the specification, the word -when—is incorrectly spelled “wen”. Appropriate correction is required.*

In response thereto, Applicants would like to thank the Examiner for pointing out the informalities and accordingly amended the specification as above. Reconsideration is respectfully requested.

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**Discussion of the claim rejection under 35 USC 102**

*The Office Action rejected claims 1-5 and 8 under 35 U.S.C. 102(b) as being anticipated by Roddy et al. (US-6,769,772, hereinafter Roddy).*

Applicants respectfully disagree and traverse the above rejections as set forth below.

The present invention is generally related to optical projection system. Particularly, claim 1, as amended, recites, among other things, *[a first wire grid polarizer (WGP), a second WGP and a third WGP, for respectively receiving and polarizing the first, second and third light beams and respectively reflecting the polarized beams to a first liquid crystal reflection panel, a second liquid crystal panel and a third liquid crystal panel, wherein the first, second and third liquid crystal panels are respectively positioned substantially parallel to the first, second and third surfaces of the color combination prism, and wherein the first, second and third liquid crystal panels respectively receive the polarized light beams from the first, second and third WGPs and reflect polarized light beams to the first, second and third surfaces of the color combination prism]*. The advantage of the above feature is that at least the deviation of the light path of polarized beam entering into the color combination prism due to deformation of the WGP may be effectively reduced.

Applicants respectfully submit that the independent claim 1, as amended, is allowable over Roddy because Roddy substantially fails to teach or disclose each and every feature of the claimed invention. More specifically, Roddy fails to teach or disclose an optical projection system comprising at least *[a first wire grid polarizer (WGP), a second WGP and a third WGP, for respectively receiving and polarizing the first, second and third light beams and respectively*

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*reflecting the polarized beams to a first liquid crystal reflection panel, a second liquid crystal reflection panel and a third liquid crystal reflection panel, wherein the first, second and third liquid crystal panels are respectively positioned substantially parallel to the first, second and third surfaces of the color combination prism, and wherein the first, second and third liquid crystal reflection panels respectively receive the polarized light beams from the first, second and third WGs and reflect polarized light beams to the first, second and third surfaces of the color combination prism*], as required by the amended proposed independent claim 1.

Instead, Roddy, at FIG. 7, substantially discloses spatial light modulators (20b, 20g, 20r), which the Office Action regards as equivalent to the liquid crystal reflection panels (618) of the claimed invention, are substantially positioned perpendicular with respect to the corresponding surfaces of the X cube (32). In other words, Roddy substantially fails to teach or disclose a *wherein the first, second and third liquid crystal reflection panels are respectively positioned substantially parallel to the first, second and third surfaces of the color combination prism, and wherein the first, second and third liquid crystal reflection panels respectively receive the polarized light beams from the first, second and third WGs and reflect polarized light beams to the first, second and third surfaces of the color combination prism*], instead, Roddy substantially teaches positioning the spatial light modulators (20b, 20g, 20r) substantially perpendicular to the corresponding surfaces of the X cube (32).

Furthermore, because Roddy substantially teaches that the spatial light modulators (20b, 20g, 20r) that are substantially positioned perpendicular with respect to the corresponding surfaces of the X cube (32) and the reflected light beams (blue, green and red) are again reflected

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by the spatial light modulators (20b, 20g, 20r) to the corresponding surfaces of the X cube (32), therefore, according the present inventors, the deviation of light path of the beams propagating to the corresponding surfaces of the X cube (32) would inevitably occur due to the deformation of the spatial light modulators (20b, 20g, 20r) and or the dichroic combiner (30). Accordingly, Applicants respectfully submit that the optical projection system of Roddy cannot possibly achieve the features of the claimed invention.

Therefore, Roddy substantially fail to teach or disclose every features of Claim 1, and therefore Roddy cannot possibly anticipate every features of Claim 1.

Claims 2-5 and 8, which directly or indirectly depend from Claim 1, are also patentable over Roddy, at least because of their dependency from an allowable base claim.

For at least the foregoing reasons, claims 1-5 and 8 patently define over Roddy. Reconsideration and withdrawal of the above rejections is respectfully requested.

#### **Discussion of the claim rejection under 35 USC 103**

*The Office Action rejected claims 1-14 under 35 USC 103(a) as being unpatentable over Hansen et al. (US-6,666,556, hereinafter Hansen).*

Applicants respectfully disagree and traverse the above rejections as set forth below.

Applicants respectfully submit that the independent claim 1, as amended, is allowable over Hansen because Hansen substantially fails to teach, suggest or disclose each and every feature of the claimed invention. More specifically, Hansen fails to teach, suggest or disclose an optical projection system comprising at least *[a first wire grid polarizer (WGP), a second WGP*

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*and a third WGP, for respectively receiving and polarizing the first, second and third light beams and respectively reflecting the polarized beams to a first liquid crystal reflection panel, a second liquid crystal reflection panel and a third liquid crystal reflection panel, wherein the first, second and third liquid crystal panels are respectively positioned substantially parallel to the first, second and third surfaces of the color combination prism, and wherein the first, second and third liquid crystal reflection panels respectively receive the polarized light beams from the first, second and third WGPs and reflect polarized light beams to the first, second and third surfaces of the color combination prism], as required by the amended proposed independent claim 1.*

Instead, Hansen substantially discloses that transmissive array (16a-c), which the Office Action regards as equivalent to the liquid crystal reflection panels (618) of the claimed invention, is adopted for modulating the polarization of the respective colored polarized beams by selectively altering the polarization of the polarized colored beams and thereby encode image information (FIG. 1a, col. 11, line 58 to col. 12, line 17), and WGP-PBSs (14a-c), which the Office Action regards as equivalent to the WGP (616) of the claimed invention, is adopted for receiving the modulated beams from the transmissive array (16a-c) to separate the encoded information from the modulated beams, wherein each WGP-PBS separate the modulated beam into a transmitted beam with one polarization and a reflected beam of another polarization. Thus, the image information encoded on the modulated beam is separated out from the modulated beam into either the reflected and/or transmitted beam. And, if the image information is in the transmitted beam, the angle of the WGP-PBS is oriented in a manner to allow the transmitted beam to travel towards the image combiner (27) and the reflected beam is directed away from the

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transmissive array (16a-c). And, if the image information is in the reflected beam, the angle of the WGP-PBS is oriented in a manner to allow the reflected beam to travel towards the image combiner (27) and the transmitted beams is directed away from the transmissive array (16a-c) (please see FIG 1a, col. 12, lines 18-35). In other words, the transmissive array (16a-c) does not receive any (light) beams from the WGP-PBS, and therefore, Hansen cannot possibly teach or disclose the transmissive array (16a-c) receives any (light) beams from the WGP-PBS and then reflect the (light) beam received from the WGP-PBS to the image combiner (27).

Therefore, Hansen substantially fails to teach or disclose at least [wherein the first, second and third liquid crystal reflection panels respectively receive polarized light beams from the first, second and third WGPs and reflect polarized light beams to the first, second and third surfaces of the color combination prism] as required by the amended proposed independent claim 1, instead, Hansen substantially teaches that the WGP-PBS receives the modulated beam from the transmissive array and separates the modulated beam into a transmitted beam and a reflected beam, wherein the transmitted (or the reflected) beam containing the image information is transmitted to the image combiner (27) and the reflected (or the transmitted) not containing the image information is directed away from the transmissive array. Accordingly, Applicants respectfully submit that Hansen cannot possibly meet the claimed invention in this regard.

Furthermore, Applicants would like to point out that a person of ordinary skill in the art is also presumed to be one who thinks along the line of conventional wisdom in the art and is not one who undertakes to innovate. Accordingly, because Hansen substantially teaches the transmissive array is adopted for modulating the light beams and the WGP-PBS is adopted for



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receiving the modulated beam from the transmissive array and separating the modulated beam into a transmitted beam and a reflected beam, wherein the transmitted (or the reflected) beam containing the image information is transmitted to the image combiner (27) and the reflected (or the transmitted) not containing the image information is directed away from the transmissive array, and therefore one skilled in the art cannot possibly substitute transflective liquid crystal panel for transmissive liquid crystal panel because any such modification of Hansen would frustrate its intended purpose. As such, Hansen is complete and functional by itself, so there would be no reason to use parts from or add or substitute parts such as substituting transflective liquid crystal panel for transmissive liquid crystal panel, and certainly not to modify Hansen in the manner suggested only by the Examiner. Any such modification would require hindsight reconstruction, made possible only by the disclosure of the present invention.

Therefore, Hansen fails to teach, suggest or hint every features of the claimed invention as claimed in the amended proposed independent claim 1. Thus, the amended proposed independent claim 1 patently defines over Hansen.

Furthermore, Applicants respectfully submit that because the amended proposed independent claim 10, which is directed to an optical projection method, also recite features that are similar to the amended proposed independent claim 1, and therefore Applicants similarly submit that the amended proposed independent claim 10 is also allowable over Hansen at least for the same reasons as discussed above. Reconsideration is respectfully requested.

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Claims 2-9 and 11-14, which directly or indirectly depend from Claims 1 and 10, are also patentable over Hansen at least because of their dependency from an allowable base claim.

Reconsideration and withdrawal of the above rejections is respectfully requested.

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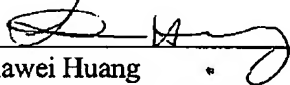
CONCLUSION

For at least the foregoing reasons, it is believed that all the pending claims 1-14 of the present application patently define over the prior art and are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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### **Annotated Marked-up drawing**

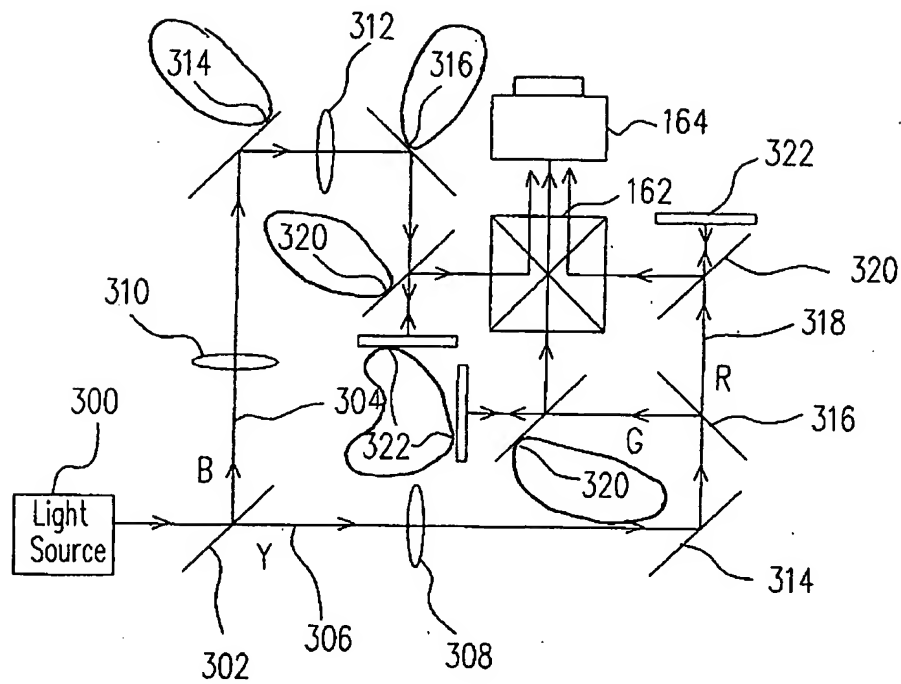


FIG. 4 (PRIOR ART)

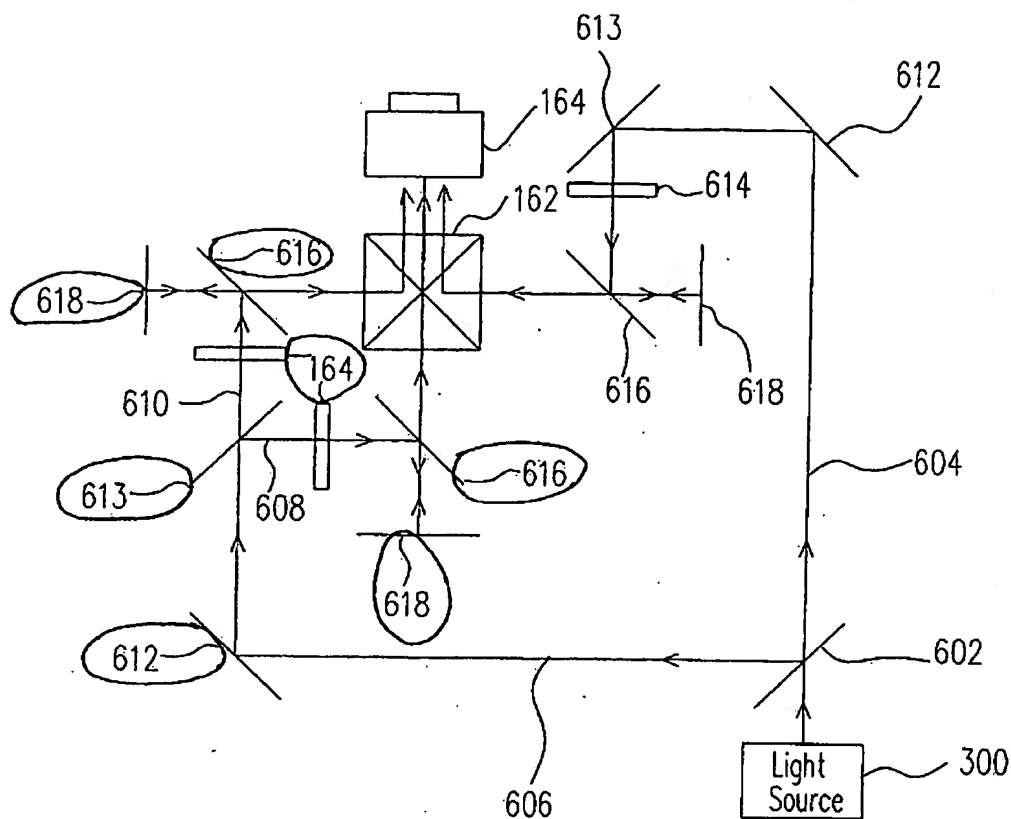
**Annotated Marked-up drawing**

FIG. 7

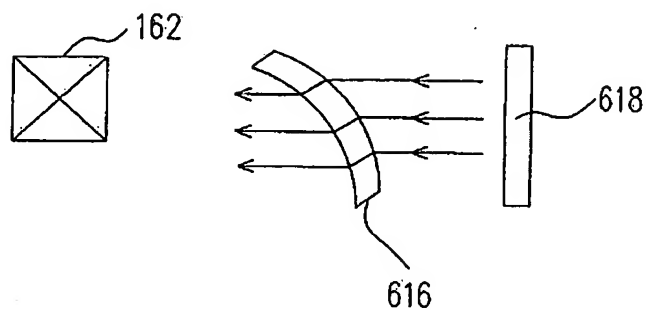


FIG. 8

### Annotated Marked-up drawing

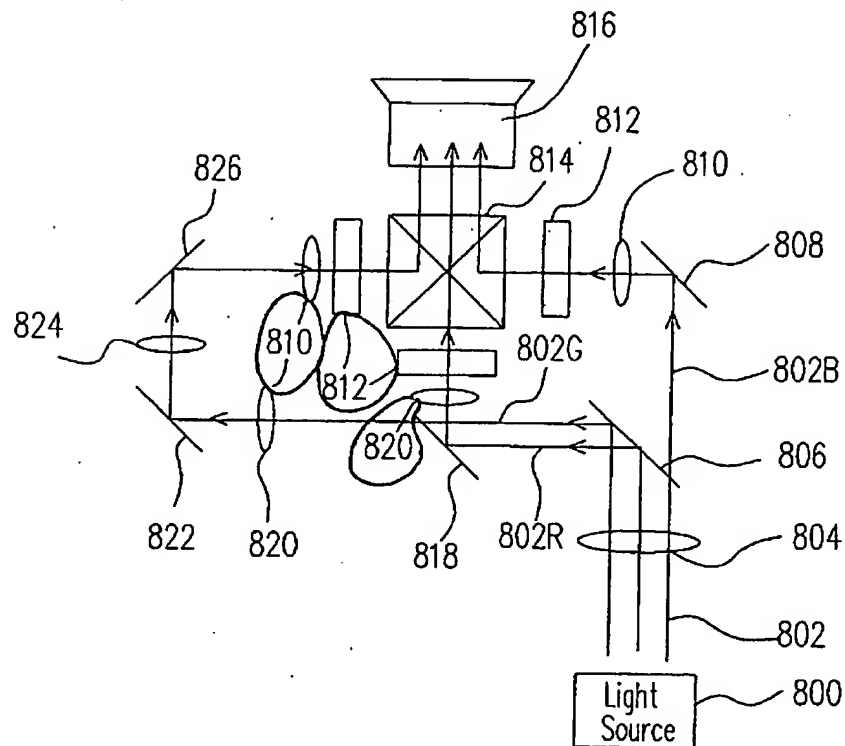


FIG. 9 (PRIOR ART)

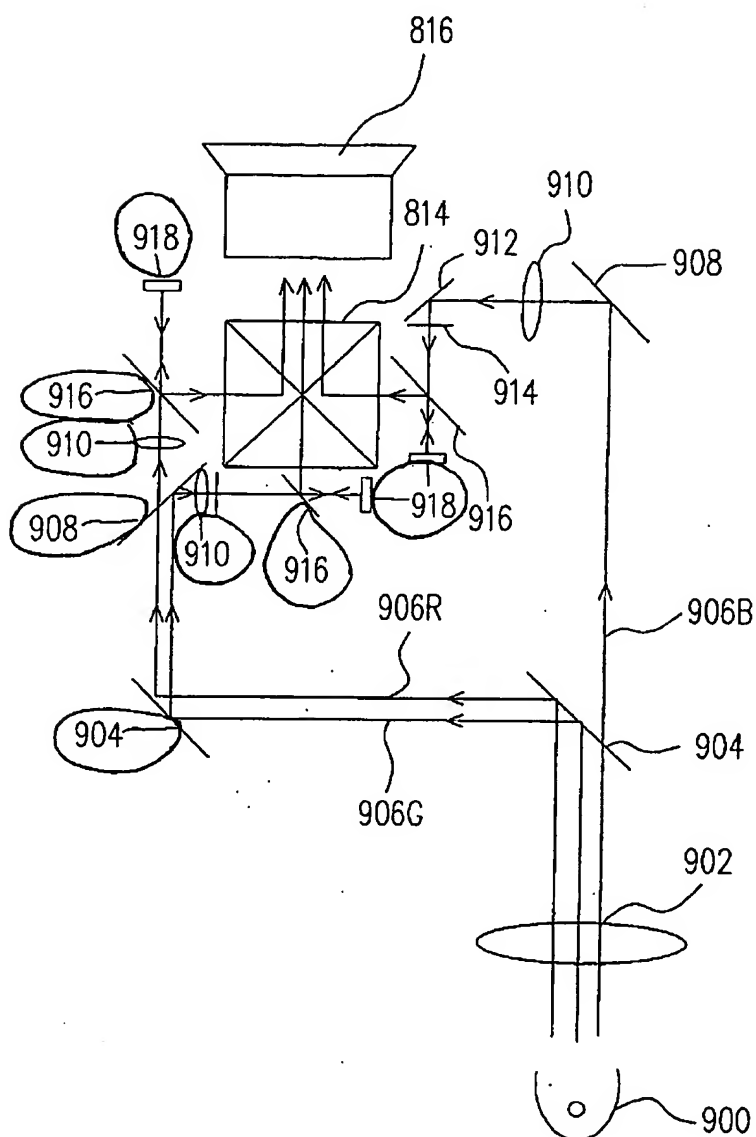
**Annotated Marked-up drawing**

FIG. 10(PRIOR ART)

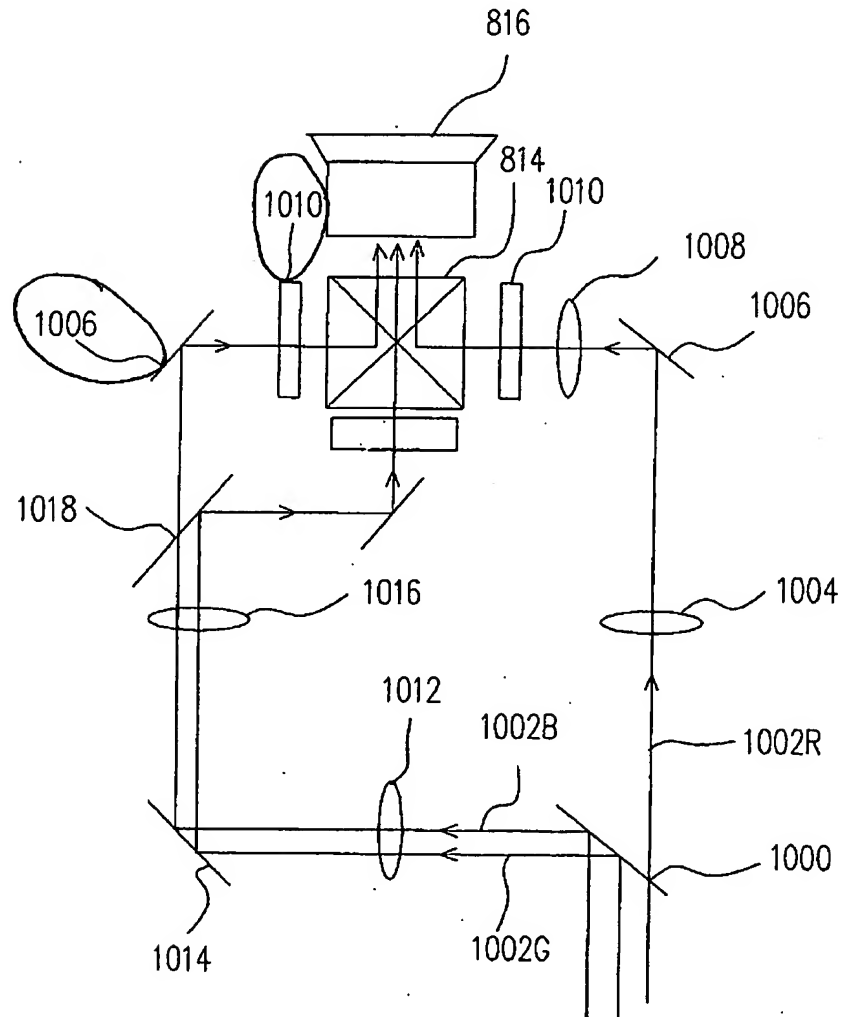
**Annotated Marked-up drawing**

FIG. 11



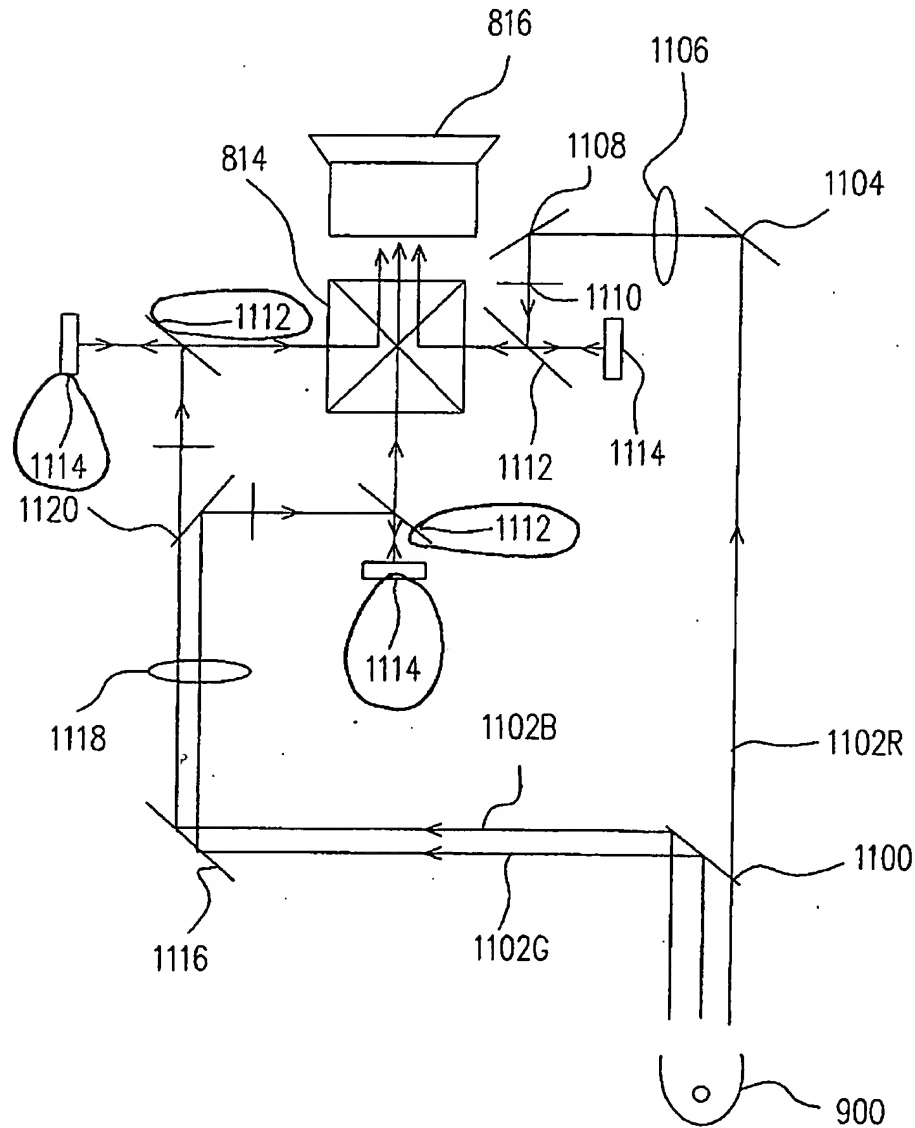
**Annotated Marked-up drawing**

FIG. 12